"Inhabitants of all forest villages to cut grass for their own use free of charge in all Reserved Forests, exept in the portions of 11 forests, the grass of which is annually sold by the Forest Department for cutting. They may collect leaves of all kinds, cowdung, wild fruits of all kinds, except hirda and mowra, wax, honey, lac, and gum. They may collect head-loads of fallen dead-wood of all kinds for their own *bonâ-fide* use, but not for sale. They may take cart-loads of such wood for their own *bonâ-fide* use on payment of very moderate fees, which should be settled by the Collector. Passes for such loads should be issued by round guards as well as by rangers. They may have free grazing for all their own cattle."

46. A privilege of cutting all but a few reserved kinds of trees all over the forests must necessarily lead to the creation of extensive blanks in such portions of forests where none or very few of the reserved kinds of trees may be represented.

47. The expenditure incurred upon the creation and constitution of forests in the Northern Circle during the year has amounted to Rs. 1,36,767-2-0, distributed thus :—

	Rs.	a.	p.
(1) Salaries and travelling allowances of Forest Settlement Officers not charged against the Forest Department	87,569	4	8
(2) Salaries and travelling allowances of establishments employed under the Forest Settlement Officers and charged in the forest accounts and the contingent expenditure of the latter	25,398	2	5
(3) Demarcation of forest boundaries upon the ground by the construction of special forest boundary-marks.	6,713	10	0
(4) Compensation for land and rights	17,086	0	11
Total ...	1,36,767	2	0

CHAPTER II.

SURVEYS AND WORKING PLANS.

(A)—SURVEYS.

48. The survey of the Thána forests upon the scale of 8 inches to the mile was commenced by a Topographical Survey Party of the Government of India working under the direction of Colonel A. Pullan, Deputy Superintendent in charge No. 17 Party Gujarát Survey, with Mr. J. Newland as his Assistant, who conducted the work in the Thána forests. A commencement was made in that portion of the Collectorate where the largest available topographical survey maps are on the scale of 2 inches to 1 mile. The scale of 8 inches for the Thána forests was selected after careful consideration of the size and description of forest maps necessary in the Thána Collectorate, where complicated questions of local requirements in the produce of forests affect the management of the State properties; there are over 1,300 forest villages in the district, the greater portion of the inhabitants of these and also of all the other villages on the seaboard and elsewhere come to the forests for the satisfaction of their wants in ráb material, in firewood, timber, grazing, grass, &c., on payment or free, and there is a considerable population looking to the forests for subsistence in cutting, collecting and carrying timber and other forest produce. Consequently, as the State forests cover the greater portions of nearly all the hill ranges which ramify in all directions, forming an apparently confused but very consistent tracery of ridges and watersheds over the Konkan, and giving a constant succession of steep lofty hills and narrow valleys, the presence of a large number of "coupes," at not very irregular distances, over the whole country is essential to the convenience of villagers, as well as advantageous to forest conservancy. Many of these "coupes" must perforce be of small area, and maps of such a scale as will show correctly the physical configuration of the country over spaces of a few acres only are wanted. Really useful forest maps should be upon a scale large enough

to show the boundaries of the forests, the position of each boundary-mark, of the several private properties touching the forest boundaries, and all internal sub-divisions of a forest block with their respective boundaries. The 8 inches scale is quite large enough to serve all these purposes, and it is none too large; it does not give unwieldy maps Moreover, it corresponds with the scale of the Bombay Revenue Survey Department; and the advantage of having forest maps upon the same scale as the village maps is a decided recommendation. In France the scale of the forest surveys are $6\frac{1}{3}$ inches and $12\frac{2}{3}$ inches to the mile. The forest survey last season in the Thána District made no very great progress —only $52\frac{4}{5}$ square miles having been plane-tabled and mapped, the hill contours having been arrived at by water-levelling. 544 stations were trigonometrically determined, extending over an area of 107 square miles; and 156 linear miles of traverse work along forest reserve boundaries was undertaken. 12·5 square miles of the surveyed area lies in the Sálsette Range and the remainder in the Kalyán Range. But the cost came to Rs. 257 per square mile. This was very heavy, and it is attributed by Colonel Pullan to the forest boundaries not having been defined, well in advance of the survey, and to the work being new. In the future, the cost will, it is expected, be very much less. And it is not improbable that with a local forest survey branch, such as the Forest Department of the Government of India have organised, the cost could be reduced to Rs. 120 per square mile.

(*B*)—WORKING PLANS.

49. Mr. T. B Fry, Deputy Conservator of Forests, 3rd Grade, has been in charge of the Working Plans Division throughout the year. The subordinate staff consists of field and office establishments, and they are all borne upon the "*Temporary Establishments*" list. The office establishment comprises 1 clerk on Rs. 40 per mensem and 4 peons on Rs. 8 each. The field staff at the commencement of the year consisted of 4 surveyors, and during the recess, from 1st June, the number was reduced to 2; but when the working season opened in November, the staff was increased to 8 surveyors and 12 enumerators; and in January, when the work of determining the boundaries of forest reservations in the Thána District had to be undertaken, and the demarcation to be pushed on vigorously, 4 more surveyors and 12 mukádams were entertained. The examination of a teak forest of 4,300 acres in extent at Virár, in the Bassein Range, and the preparation of a provisional working plan for its management were completed at the outset by Mr. Fry and his staff. And then the determination of the coupes of the two seasons 1885-86 and 1886-87 in the Thána District, with an estimate of the material exploited and of the growing material left standing, were undertaken, and several test plots were carefully measured in various parts of the forests, and their contents counted and registered according to fixed classifications, in order to arrive at a fairly accurate knowledge of the capability of the forests. It soon became apparent, however, that further work of a similar character could not be satisfactorily carried out, for several reasons, the chief one being that the demarcation of the reservations by distinguishable boundary-marks upon the ground was required to be made in advance, not only of the forest survey, but of the differentiation of forest areas. And at a conference held by the Conservator with the Divisional Forest Officers of North and South Thána, and of Working Plans, at Chandai, in the Thána District, it was decided that the circumstance of the Thána forests required the very early completion of a systematic arrangement of working, maintaining, and improving the entire forest area of the two divisions in preference to very elaborate schemes for limited areas, the preparation of which must necessarily be a work of time; and the delay, that would follow in the disposal of the whole forest area of the entire Collectorate, might be disastrous, for a haphazard system of promiscuous fellings must tend to the deterioration of the growing stock, some areas being overworked and others not worked sufficiently to develop their powers. So long as the axe was directed by fancy and speculative effort, the result could in no way be satisfactory. The condition of the Thána forests does not favour schemes of very scientific elaboration, and the surrounding circumstances point to certain factors which must regulate to a great degree the internal economy of working schemes for the Thána forests. The existence of a large local population depending for subsistence in a great measure upon the labour to be provided by felling, collecting, stacking, exploiting timber and other forest produce, and also making a constant